Teaching Strategy of Medical Biochemistry

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Abstract. In order to solve the difficulties in teaching, by optimizing the teaching strategies to break through this problem. Selection of four classes students, two classes is the test classes, other classes is traditional lecture teaching model, compare their effectiveness. The results show that the experimental group test scores higher than the control group (P<0.05), which shows the optimal teaching strategy can significantly improve the ability of learning interest and comprehensive analysis of the problem of the students. So the optimization of effective teaching strategies.

Introduction

Biochemistry is an important professional basic course, is the required course of the clinical Undergraduate students. According to the requirements of the teaching syllabus, proteins, nucleic acids, enzymes, vitamins, sugars, lipids and other types of molecular structure, material composition, physiological function and metabolism in the body are the knowledge. Required to master more content and teaching hours less obvious contradiction, and Undergraduate students based on poor of chemical structure, the nature of knowledge is not comprehensive, not strong, so that teaching and learning are very difficult. This problem, there are two ways to deal with common teaching in: First is the knowledge point positioning part should have to be familiar with or understand the teaching objectives in order to reduce the require, the second is to avoid the topic and relevant content so as not to affect the results[1]. In fact, these results are negative to the students. Trying to optimize teaching strategies to overcome this problem, comparison of learning performance through the test class and control class, to verify the effectiveness of the teaching strategies.

Teaching Strategies

The author selected undergraduate class 1 (50 people) and 2 (52 people) for the experimental class with the new teaching strategies teaching. Teaching objectives to basic knowledge of biochemistry explain the clinical phenomenon, which provide methods and basis for clinical diagnosis and medication guide. The teaching contents divided into four major modules: the first module for macromolecules (proteins, enzymes, vitamins); the second module is three material metabolism (protein, sugar, lipid metabolism); the third module is gene expression (DNA replication, transcription, translation); the four module is experimental skill training. In the process of teaching, the four modules were teaching in the teaching different methods[2]. Vitamins and protein are closely related to our daily life and clinical medicine, the module of daily life examples of creating learning scenarios, using cooperative learning methods, guide students to contact their daily life, from the concept ,human body daily requirements, rich food and deficiency, medication of autonomous learning. Finally by the teacher and summarized. This module is the criteria for students can according to the patient's symptoms which pointed out that the lack of vitamins, and can reasonably recommend medication. The second module has more knowledge and complex metabolic pathways. The students generally reflect the difficult to grasp key, easy to confuse memory. In the teaching process, guiding students to clear the context, find out the metabolism is the key to learning; by finding out each kind of nutrition and metabolism center, such as blood glucose as the center in glucose metabolism, protein catabolism is based on amino acid, blood lipid metabolism is to lipid
selected as the center. To choose typical teaching, guide students to discover the law, then the problem teaching method and the self-learning method to expand training for the students. Teaching evaluation standard for students through acetyl CoA to link the three material metabolism, and points out the three major parts of metabolism occurred (organ), process, the rate limiting enzyme, energy change, physiological significance. The third module content abstract and abstruse, change the abstract for intuitive and help students to understand. The multimedia simulation is the key to solve the difficulty, therefore, process of genetic information, made into intuitive animation process, form a dynamic process, can make the knowledge more coherent, make students easier to understand. This module is the criteria for students to illustrate the cause and treatment principle of molecular disease.

The fourth module experimental skill training driven by task the students, ask students design and complete. Protein, blood glucose, blood lipid test and on the basis of the determination data to make the diagnosis conclusion. Evaluation criteria set to correct choice and use of biochemical instruments were measured, can according to clinical laboratory test results to make the correct diagnosis and medication based on description. Skills upgrading training set to use learned knowledge of several typical clinical laboratory single made simulation and diagnosis.

The control class with the same grade with a professional undergraduate class 3 (55 people) and class 4 (53 people) as the control class with traditional teaching method, according to the content of the material, in order to start teaching.

Statistical methods: using PEMS 3.1 statistical software for data analysis, measurement data with $x \pm s$ said, using the U test, with $P<0.05$ as the difference was statistically significant.

**Results**

The process of learning theory in the teaching process, the students always maintain a good learning state and interest in the experimental class. Teachers and students did not feel it difficult to occupy time. The students can actively participate in teaching activities. In classroom teaching evaluation, Students can basically grasp the content of requirements. In the experimental stage, the same samples, the determination results of students are not the same, the experimental results of individual student plagiarism phenomenon. Therefore, timely import professional ethics and work style of discussion and ultimately reach a consensus: engaged in clinical work of the most basic professional ethics is a practical and realistic, rigorous, serious style of work and not afraid of hard learning is the necessary request to improve the quality of the occupation.

Respectively with the same questions of experimental class and that in comparative classes for the final examination, experimental class $(85.32 \pm 5.45)$, control group $(76.29 \pm 8.13)$, the experimental class performed significantly better than the control class ($P<0.05$).

**Discussion**

The learning process is difficult to compare and analyze with statistical techniques, but from the behavior of the students in the experimental class can still reflect the implementation of the new teaching strategy. Although the subjects of learning ability is not strong, poor foundation, but students participation in teaching activities, learning enthusiasm are very high that the use of teaching strategies can effectively improve students' interest in learning.

Biochemistry average scores of experimental class students are significantly higher than that in comparative classes ($P<0.05$). It shows that the new teaching strategies to improve the students' learning performance. Evaluation in classroom training, the experimental class students have to learn knowledge solution actual problem ability is stronger than that in control classes, and suggest that new teaching strategies can effectively improve students' ability to use knowledge and solve problem.

The teaching goal orientation strategy of biochemistry courses: determined through the course of the study, not only to lay a foundation of knowledge and skills for professional courses, but also to
learn more knowledge and skills should be provided and used in the analysis, the basic process and method of solving practical problems. We should be positioned to improve the learning ability of college students the training objectives, training skills, to enable students to develop a rigorous and realistic scientific attitude, for knowledge, for future clinical professional courses offering medical skills, methods and basic attitude. The teaching target positioning in society by biochemical knowledge to explain some clinical phenomena, provide the basis for clinical diagnosis and guidance the test of medication[3]. The teaching strategy is the guiding work oriented teaching concept, to solve practical problems, to improve the learning ability and the occupation ability. The experimental results show that this strategy is effective.

Students master the correct method of acquiring knowledge than to master relevant. The author will use the guidance in the process of teaching and learning method for the first and second modules, the problem teaching method and learning method, make students learn knowledge in the process of learning and learning methods, to solve the practical the problem lay a solid foundation[4]. In the fourth module teaching, with task driving, let students in the work situation try to figure out the role of occupation work demand, active learning knowledge and skills and applied to practical work, accept the correct working process and method of training and occupation moral clear industry standards should comply with the teaching materials. Just teaching material, the main carrier of teaching and learning. The author in teaching design does not stick to the textbook content and order, and around the goal of teaching, Closely linked to the standard of teaching, according to the present context of knowledge and expand the application, transfer, forming skills program module teaching, make full use of the knowledge and skills of the carrier, training students the correct way of thinking, training the cultivation of the students' autonomous acquisition and application of knowledge and skills, the ability to analyze and solve problems.

References


